HANDBOOK

ISO/IEC 20000
IT service management

A PRACTICAL GUIDE

Advice from ISO/IEC JTC 1/SC 40

IEC ISO

Contents

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Acronyms and **abbreviations**

APIs	application programming interfaces
BCMS	business continuity management-system
BRM	business relationship management
CI	configuration item
CMDB	configuration management database
CMMI-SVC®	Capability Maturity Model Integration for Services
COBIT®	Control Objectives for Information and Related Technologies
CSI	continual service improvement
DevOps	Development and Operations
DLT	distributed ledger technology
DSDM	dynamic systems development method
EGIT	enterprise governance of information and technology
HLS	high-level structure
IoT	Internet of Things
ISACA	Information Systems Audit and Control Association
ISMS	information security management-system
ITIL®	Information Technology Infrastructure Library

MSS	management-system standard
NIST	National Institute of Standards and Technology
OCM	organizational change management
PAMs	process capability assessment models
PRM	process reference models
PESTLE	political, economic, social, technological, legal and environmental aspects
PMP	project management professional
Prince2®	Projects in Controlled Environments
PRMs	process reference models
QMS	quality management system
RACI	responsible, accountable, consulted and informed
SDC	software-defined compute
SDI	software-defined infrastructure
SDN	software-defined networking
SDS	software-defined storage
SIPOC	suppliers, inputs, process, outputs, customers
SLA	service-level agreement
SMS	service management system
VeriSM®	value-driven, evolving, responsive, integrated Service-Management
VSE	very small entity

Introduction

In her vision of the future, the Danish politician, Ida Auken, wrote that "Everything you considered a product, has now become a service." She then asserted that, in the near future, everything, from transportation to catering to accommodation, could be obtained without having ownership of it [24]. In fact, in some parts of the world this is already reality: most things we obtain are available as a service and fewer and fewer companies only provide a simple product without having some form of a service wrap around it. Services are everywhere, from the basic shoe-shine services to cloud-based anything-as-a-service. Moreover, with the current direction of digital transformation of business services, the IT component of services has become an integral part of the entire business service. Service management, which has its roots in IT, is therefore now needed throughout the business, in order to be able to control the effectiveness of the services provided and to keep happy customers.

ISO/IEC 20000-1:2018, *Information technology – Service management – Part 1: Service management system requirements* [1] is the International Standard for service management. It outlines the requirements of a service management system (SMS), which is the combination of management responsibilities, processes, organizational roles and activities to manage services. These services can be of any kind (e.g. healthcare, transport, IT, consultancy services) and be provided by organizations (often known as service providers) of any size (e.g. self-employed individuals, small and medium enterprises, government agencies, commercial enterprises).

The purpose of this guide, *ISO/IEC 20000 IT service management : a practical guide*, is to provide an accessible overview of how to implement the requirements of ISO/IEC 20000-1, how to go beyond the requirements to a higher level of service management maturity and how to use other available standards and frameworks to support the implementation of an SMS. The focus is on organizations that are not yet familiar with the standard and need help in the form of practical guidance, in non-technical language, in order to set up their service management practices. Note : This guide uses the general expression *service management* throughout, even though the title states *IT service management*. These expressions are interchangeable for the purpose of this document ; as ISO/IEC 20000-1, though written in the context of management and delivery of services that have technological or digital components, its requirements and principles can be applied to both IT and non-IT services.

The value of implementing service management

The purpose of managing services is to have a structured way of preparing and performing the activities to deliver services to your customers. A *structured* way does not necessarily mean a *rigid* way : you can implement service management and comply with the requirements of ISO/IEC 20000-1 in many ways, using various frameworks and methodologies. You can even use different methodologies for different service types you provide. Implementing service management therefore does not need to be disruptive to your organization : the focus should be on supporting your existing organization by implementing service management practices that are beneficial to yourself, the customer and other stakeholders. These benefits may include :

- Lower operating costs due to greater efficiency ;
- Increased customer satisfaction due to an enhanced service experience ; and
- Greater ease of operation due to a more standardised way of providing services.

ISO/IEC 20000-1 is not prescriptive about the way you should implement service management : it only focuses on what is required from a service provider to function effectively, and not on how all requirements are implemented in practice. This varies greatly depending on the service provider's size, industry and type of services. There is therefore no "best practice" in service management, as the context of your organization determines what is best for you and for your customers.

Structure of this guide

There are three main sections to this guide :

Section 1 is the practical guide to implementing ISO/IEC 20000-1. It describes in practical ways how to go about implementing the requirements of the standard, based on what you may have in place already. It also describes how to use ISO/IEC 20000-1 with current management practices, such as Agile, Lean, and Development and Operations (DevOps). Furthermore, it covers emerging technologies that your services may be based on, such as Cloud, the *Internet of Things* (IoT) and software-defined technologies, and how to deal with these in the context of your SMS. The last chapter in this section covers possibilities for smaller organizations to implement the requirements of ISO/IEC 20000-1.

Section 2 goes beyond the requirements of the standard and describes how to measurably improve your service management process capabilities and organizational maturity to achieve more valuable and higher quality services. It looks at aspects of process maturity, and various other aspects that are of influence on successful service management, such as individual motivation, attitude and knowledge as well as the organization's culture, structure and communication. These aspects have a considerable impact on how an SMS performs in your service management environment and how it needs to be adapted to the nature of all these aspects.

Section 3 provides guidance on using other standards and frameworks in combination with the ISO/IEC 20000 series of International Standards. This section

covers quality management (ISO 9001 [11]), information security management (ISO/IEC 27001 [13]), business continuity management (ISO 22301 [16]), risk management (ISO 31000 [14]), governance (ISO/IEC 38500 [15]), project management, and non-ISO frameworks such as : value-driven, evolving, responsive, integrated Service Management (VeriSM [19]) ; Capability Maturity Model Integration for Services (CMMI-SVC [20]) ; ITIL [21], and ; COBIT [22].